

MATING BEHAVIOUR OF RAMS AT SEMEN COLLECTION WITH ARTIFICIAL VAGINA

J. Oláh, Nóra Vass, T. Pécsi, A. Kovács, A.Jávor *

*University of Debrecen

Abstract

The aim of this study was to examine the sexual behaviour of Barbados Black Belly and cigaja rams during semen collection with artificial vagina. Almost half of the rams ejaculated from the first mount both times. From the 7 barbados rams the first 4 arrived in the same order to the semen collecting place. The last 3 rams changed their order both times. There is a statistically demonstrable connection between the body weight of the rams and their social hierarchy.

Keywords: rams, artificial vagina, semen collection

INTRODUCTION

The rams have to suit a basic requirement: mating with healthy ewes, or inseminating the ewes with their sperm have to produce viable offsprings (Horváth, 1983). Certainly the most important thing is that the rams have to perpetuate the characteristics, determined in the breeding target. The undesirable hereditary diseases and the problems of the sexual organs can prevent this. Gergátz's (2007) opinion is that the requirements of safe sperm producing are: the unexceptionable anatomical and functional status of the sexual organs and the normal sexual behaviour. The rams mating behaviour starts with genital controll, then stamping with the first leg, and mount the ewe without intromission. Intromission and ejaculation takes place at the second mount. The foreplay makes default at semen collection with artificial vagina (Molnár, 2006). We can use several tests for illustrating the rams reproductive performance: physical examination (testis, epididymis, penis, legs, teeth, condition), the circumference of the testis (rises with the age, but if the value is lower than the average decreased sexual activity can occur), semen examination, libido test, mating ability and serving capacity test. The libido can be called sexual instinct, the sexual power and energy of the ram (Sarlós, 2006). The animals libido is mostly hereditary, but can be modified by the environment. The male animals libido has no cycle, and between optional keeping conditions it's level is constant. The libido is not in connection with the mating ability of the ram. The mating ability means that the ram mounts and succesfully fertilises the ewe. The so called serving capacity test is the libido and the mounting ability together (Szász, 2007). The mounting ability can be tested by the

number of mounted ewes in a period of time (Horváth, 1983). The sexual behaviour of the rams is influenced by the breed and the age as well (Simitzis, 2005). During natural mating the ram that is the first in the social hierarchy, will not let the others mount the ewes (Horváth and Veress, 1982).

MATERIALS AND METHODS

The aim of this study was to determine that: at rams that are kept together what influences the social hierarchy when they come to the semen collection?

We conducted an experiment with barbados and cigaja, well- trained rams. They were kept in two groups according to the breed. The partner at the semen collection was an ewe on heat. The workers did not influence the order of the rams, it was influenced by the social hierarchy. We have measured the body weight of the rams at the beginning of the experiment. Artificial vagina was used for the semen collection (40 °C). We have monitored the the order of the rams as they are coming out to the semen collecting place and that how many times does a ram mount before the successful ejaculation? We have made four categories:

1. the ram ejaculates from the first mount
2. the ram ejaculates from two mounts
3. the ram ejaculates from three mounts
4. the ram did not ejaculate, was sent back to the expectant group, and later let out again, when successfully ejaculates

At two different times of the semen collection did the rams order, or the number of mounts (before a successful ejaculation) changed? Is there a connection between the order and the body weight?

The statistical method for finding out those mentioned above was the chi-square test. According to the body weight, we made 3-3 groups per breed.

Barbados breed:

1. rams between 40-50 kg
2. rams between 51-60 kg
3. rams between 61- 70 kg

Cigaja breed:

1. rams between 59-69 kg
2. rams between 70-79 kg
3. rams between 80-90 kg

RESULTS AND DISSCUSIONS

From the 7 barbados rams the first 4 arrived in the same order to the semen collecting place. The last 3 rams changed their order both times (Table 1). There were no observations like this at cigaja breed.

| Number of the ram | Order of the mount |
|-------------------|--------------------|
| 6226 | 1 |
| 3421 | 2 |
| 6223 | 3 |
| 6213 | 4 |
| 6221 | 5 |
| 6211 | 6 |
| 6217 | 7 |

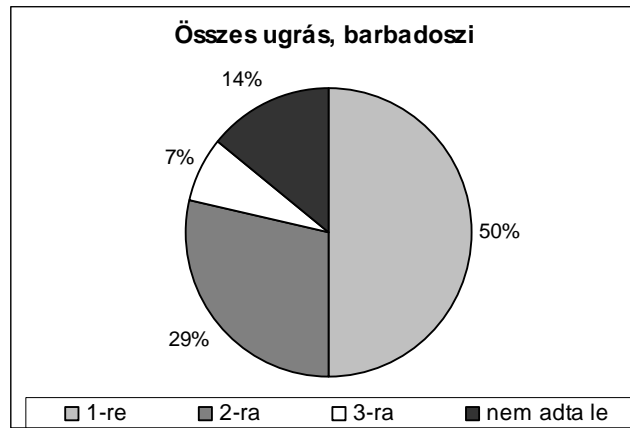


Diagram 1.: the total of mounts at barbados breed

We have summed the results of the mounts per breed and verified that 50% of the barbados rams ejaculated from the first mount (diagram 1.)

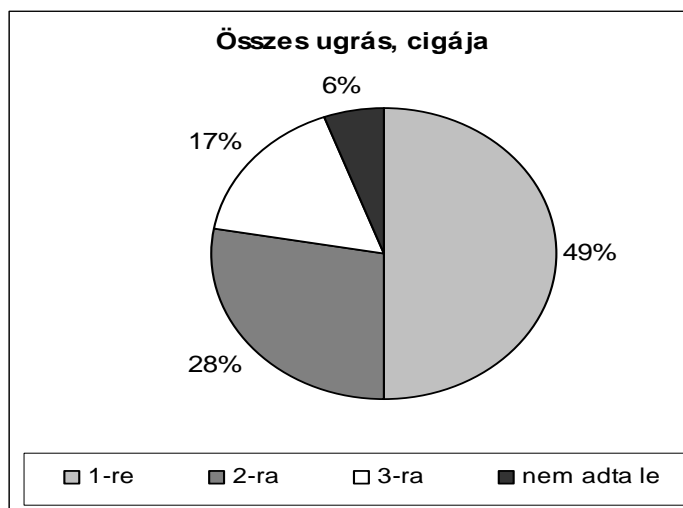


Diagram 2.: the total of mounts at cigaja breed

49% of the cigaja rams ejaculated from the first mount (diagram 2.), 6% of the cigaja rams did not ejaculate at all, less, than barbados rams (14%).

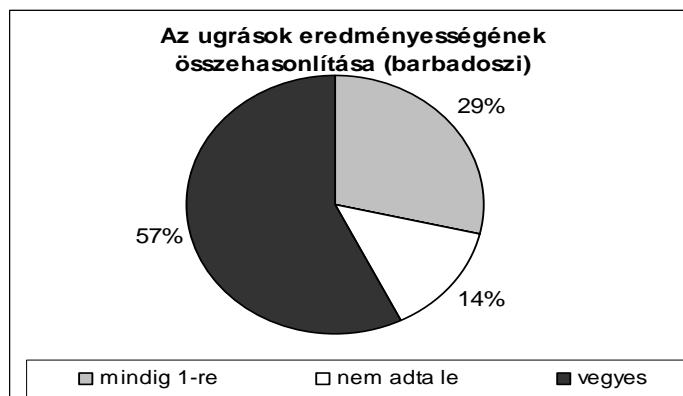


Diagram 3.: The successful mounts summed (barbados breed)

At two different times did the number of mounts for a successful ejaculation changed? The results show, that in barbados breed 29% of the rams ejaculated from the first mount both times (digram 3.).

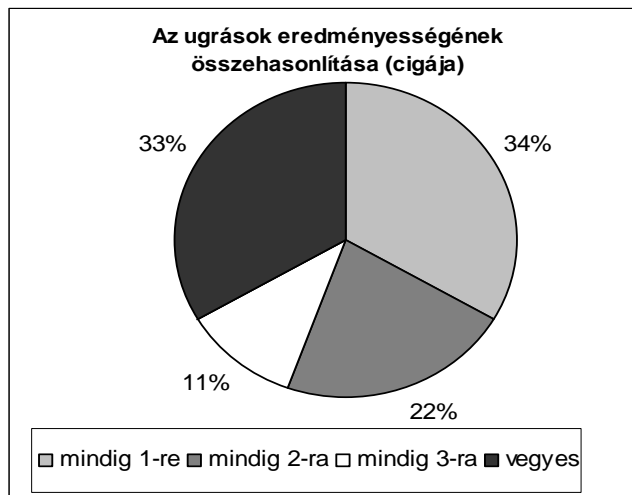


Diagram 4.: The successful mounts summed (cigaja breed)

34 % of the cigaja rams ejaculated from the first mount both times (diagram 4.).

At barbados rams, we have statistically confirmative results in that there is a connection between the body weight and the order of mounting between group 1. and 2., 1. and 3., and 2. and 3.

At cigaja breed the difference was significant only between group 1. and 3., and group 2. and 3.

REFERENCES

1. Gergátz E. (2007): A juhok mesterséges termékenyítése. In: Házi emlősállatok mesterséges termékenyítése. Szerk.: Pécsi T. Mezőgazda Kiadó, Budapest, 2007. 344-345 p.
2. Horváth M. (1983): A kos és kecskebak andrológiája. In: A hímivarú állatok szaporodásbiológiája. Szerk.: Becze J., ezögazdasági Kiadó, Budapest, 1983. 192-193 p.
3. Horváth M.- Veress L. (1982): A juhállományok szaporítása. In: Juhtenyésztök kézikönyve. Szerk.: Veress L., Jankowski S.T., Schwark H. J., Mezőgazdasági Kiadó, Budapest, 1982. 194 p.
4. Molnár Gy. (2006). A juhok viselkedése, bánásmód a juhokkal. In: Juhtenyésztés A-tól Z-ig. Szerk.: Jávor A., Kukovics S., Molnár Gy., Mezőgazda Kiadó, Budapest, 2006. 281-282 p.
5. Simitzis P.E.- Deligeorgis S.G.- Bizelis J.A. (2005): Effect of breed and age on sexual behaviour of rams. *Theriogenology*, 65.8. 1480-1491 p.
6. Sarlós P. (2006): A juhok szaporítása, reprodukció. In: Juhtenyésztés A-tól Z-ig. Szerk.: Jávor A., Kukovics S., Molnár Gy., Mezőgazda Kiadó, Budapest, 2006. 193 p.
7. Szász F. (2007): A hím nemi működés. In: Házi emlősállatok mesterséges termékenyítése. Szerk.: Pécsi T. Mezőgazda Kiadó, Budapest, 2007. 49 p.